

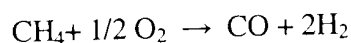
Please cancel claim 13.

Please add the following new claims 21-28:

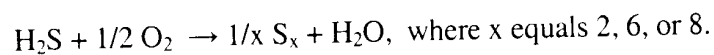
21. (New) The system of claim 8 comprising, in sequence:
a synthesis gas reactor having a light hydrocarbon gas inlet, an O₂ inlet and an H₂S inlet,
a firetube boiler,
a sulfur condenser,
a heater, and
a tailgas cleanup unit.

22. (New) The system of claim 21 further comprising, in sequence, a cooler for receiving product gas from said tailgas cleanup unit, and a quench tower.

23. (New) The system of claim 8 wherein said catalyst is active for catalyzing the reactions



and



24. (New) The system of claim 14 wherein said cooling zone comprises a sulfur condenser.

25. (New) The system of claim 15 wherein said tailgas processing unit comprises a sulfur absorbing material.

26. (New) An apparatus for producing synthesis gas and elemental sulfur, the apparatus comprising:

means for effecting both the catalytic partial oxidation of a light hydrocarbon to form CO and H₂ products and the catalytic partial oxidation of H₂S to elemental sulfur and H₂O in a single reaction zone of a short contact time reactor, whereby a stream of product containing CO, H₂, H₂O and elemental sulfur is produced;

means for maintaining the temperature of said reaction zone above the dew point of sulfur,

means for cooling said product stream below the dewpoint of sulfur;